[illegible]5[illegible] [illegible]

1. [illegible]

[illegible]

[illegible]
[illegible]
[illegible]
[illegible]

[illegible]

[illegible]
[illegible]
[illegible]

[illegible] + [illegible] → [illegible]

[illegible]
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

… G A A …

… C T T …

… G T A …

… C A T …

[illegible]

mRNA

… G A A …

… G U A …

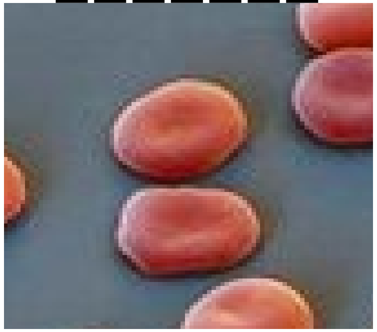
[illegible]

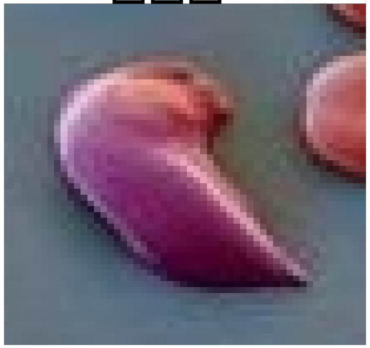
… [illegible] …

… [illegible] …

[illegible]

[illegible]

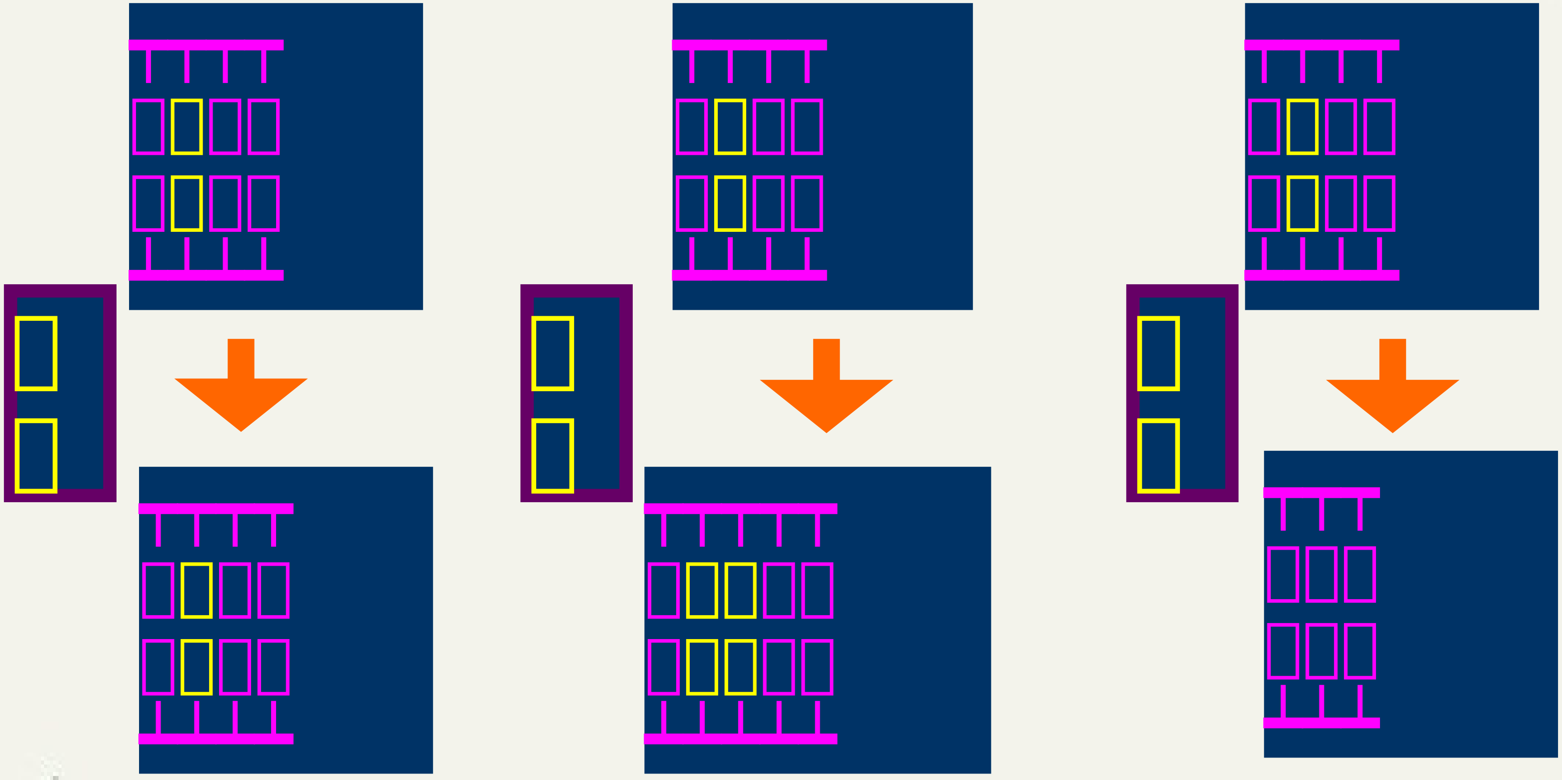




1. [illegible] [illegible] ______ [illegible]

[illegible] ______ [illegible]

DNA

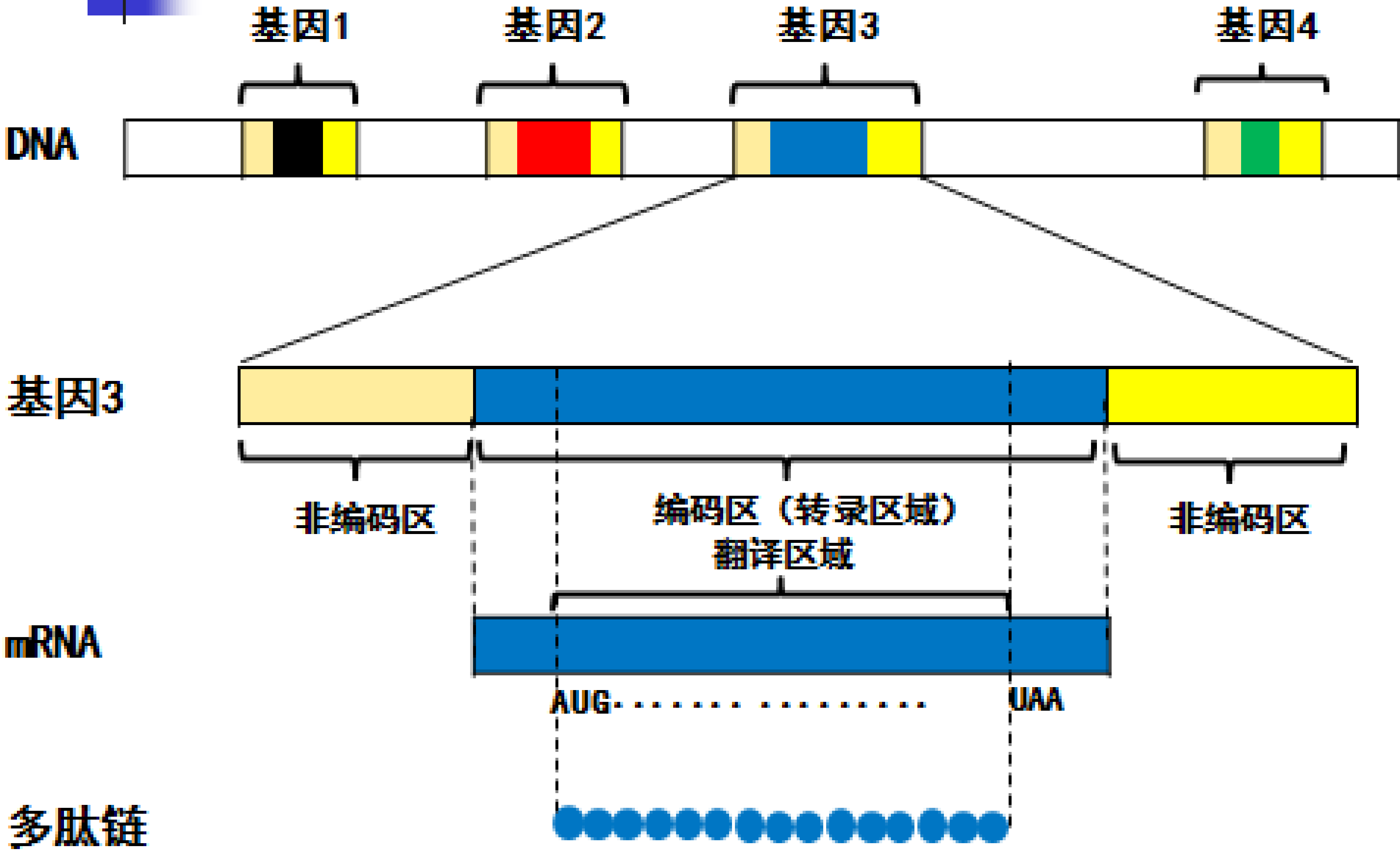


① DNA

②

③

补充：基因的结构


基因1
基因2
基因3
基因4
DNA
基因3
非编码区
编码区（转录区域）
翻译区域
非编码区
mRNA
AUG· · · · · · · · · · · · · · · · · · ·
UAA
多肽链

DNA [illegible]　TAC　CAT　TAG　GAT

mRNA　AUG　GUA　AUC　CUA

[illegible]　[illegible]　[illegible]　[illegible]

[illegible] C

DNA [illegible]　TAC　CCA　TTA　GGA

mRNA　AUG　GGU　AAU　CCU　A

[illegible]　[illegible]　[illegible]　[illegible]

1. [illegible]

2. [illegible]

[illegible] ——[illegible]

[illegible] 1 [illegible] 2 [illegible] 3 [illegible]

DNA [illegible]	TAC	CAT	TAG	GA
mRNA	AUG	GUA	AUC	CU
	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] CCC

DNA [illegible]	TAC	CCC	CAT	TAG	GAT
mRNA	AUG	GGG	GUA	AUC	CUA
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1. [illegible]
2. [illegible]
3. [illegible]

([illegible]) [illegible]

[illegible] DNA [illegible] I [illegible]

[illegible]

[illegible] 1 [illegible]

DNA [illegible] DNA [illegible]
[illegible]

[illegible] 2 [illegible]

[illegible]

[illegible] X [illegible]

[illegible] DNA [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] DNA

([illegible]) [illegible]

① [illegible] : [illegible]

② [illegible] : [illegible]

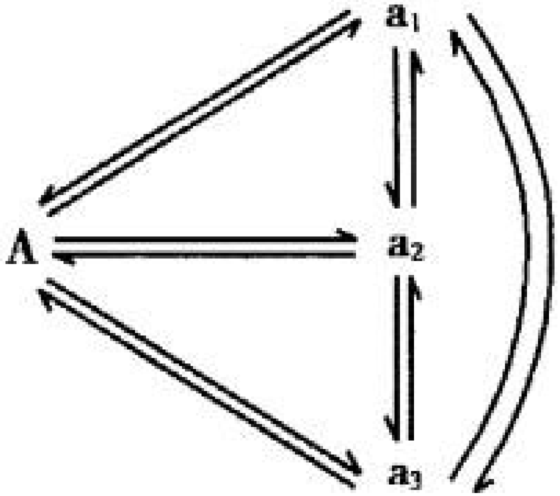
③ [illegible] : [illegible] 10^{-5} - 10^{-8} [illegible]

④ [illegible] [illegible] , [illegible]

⑤ [illegible]

[illegible]

[illegible]



[illegible] A→B [illegible]

[illegible]

[illegible]

[illegible]

[illegible]:

[illegible]

[illegible]

[illegible] P82 [illegible]

[illegible]
[illegible]

[illegible] 1 [illegible]

[illegible] 2 [illegible]

[illegible]
[illegible]

[illegible] 3 [illegible]

[illegible]①[illegible]②[illegible] ③[illegible]

“[illegible]”[illegible]
[illegible]

[illegible]

[illegible]

[illegible]

1 [illegible] ____[illegible]____ [illegible] ____[illegible]____ [illegible]

2 [illegible]

[illegible]

① [illegible] ____[illegible]____ [illegible] ____[illegible]____ [illegible] ____[illegible]____

[illegible] ____[illegible]____ [illegible]

② [illegible] ____[illegible]____ [illegible]

____[illegible]____ [illegible] ____[illegible]____ [illegible] [illegible]

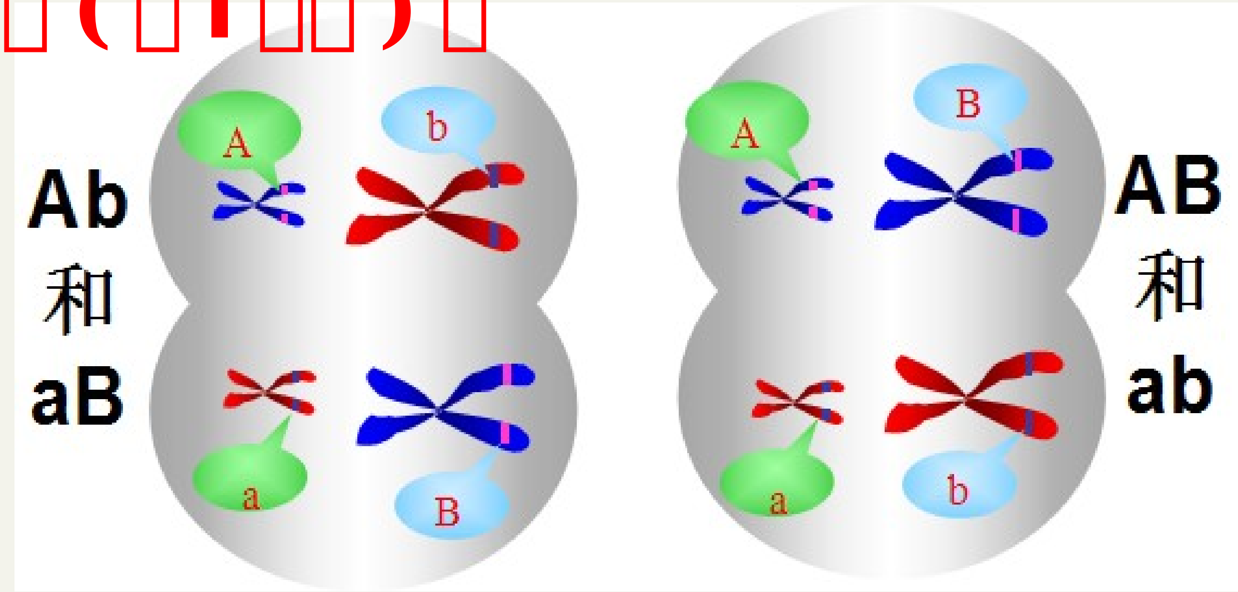
____[illegible]____ [illegible]

3. [illegible] ① ____[illegible]____ [illegible]

② ____[illegible]____ [illegible]

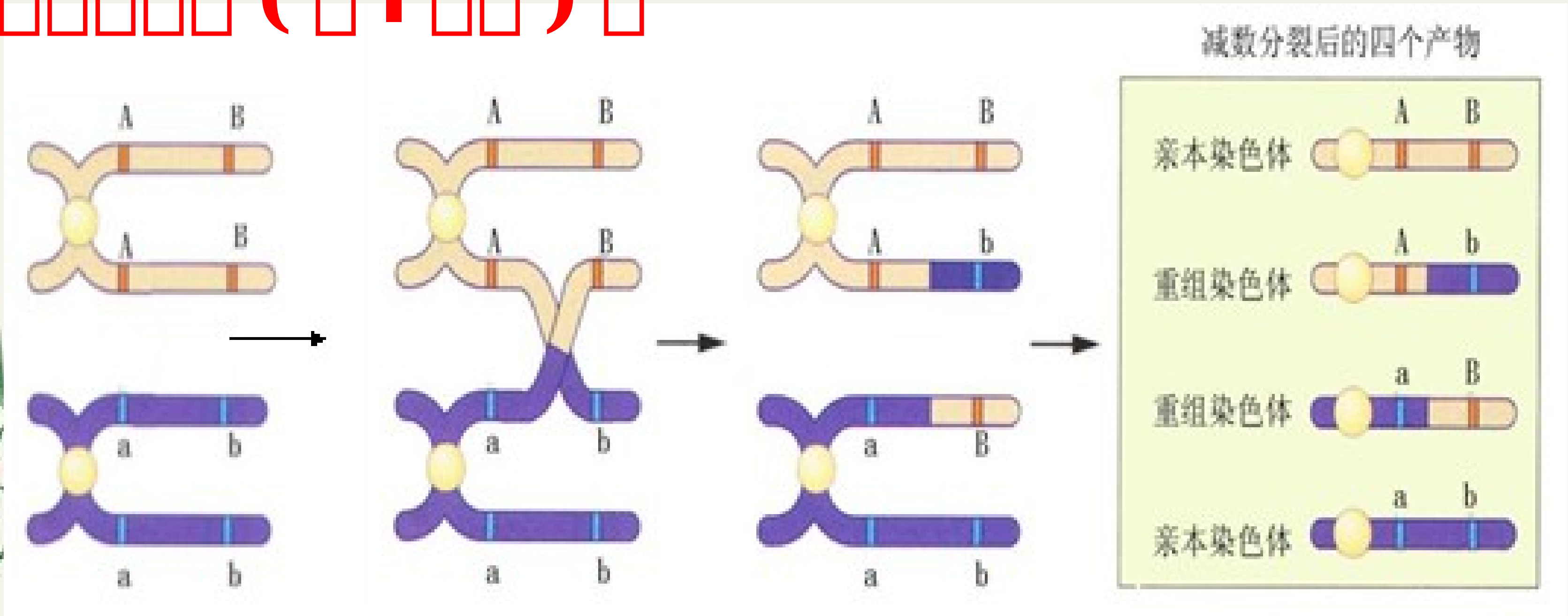
③ ____[illegible]____ [illegible]

□□□□□(□I□□)□



Ab
和
aB
A
b
a
B
A
B
a
b
AB
和
ab

□□□□□(□I□□)□



A B
A B
a b
a b
A B
A B
a b
a b
A B
A b
a B
a b
减数分裂后的四个产物
亲本染色体 A B
重组染色体 A b
重组染色体 a B
亲本染色体 a b

[illegible]

1. [illegible] 2n=46 [illegible] 1 [illegible]

(1) [illegible] ______ [illegible] 2^{23} ______ [illegible]

[illegible] 2^{23} ______ [illegible] 2^{46}

(2) [illegible] __________ [illegible] 2^{23} [illegible]

__________ [illegible] 2^{23} [illegible] __________ [illegible] [illegible] 2^{46}

2. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible] ([illegible]) [illegible]	[illegible]
[illegible]	[illegible] DNA [illegible]	[illegible]
[illegible]	[illegible] ([illegible])	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

[illegible]

1. [illegible]

[illegible]

2. [illegible]

3. [illegible] Aa [illegible] aa [illegible]

[illegible]

4. [illegible] A [illegible] a [illegible]

5. YyRr [illegible]

[illegible]

6. [illegible]

YyRr [illegible]
[illegible] YR [illegible] Yr [illegible] yR [illegible] yr [illegible]

[illegible]

1 [illegible]（　　　）

A [illegible] DNA [illegible]

B. [illegible]

C [illegible] DNA [illegible]

[illegible]

D [illegible]

B

[illegible]——[illegible]——[illegible]

2 [illegible] [illegible] 2.5

1. [illegible]

2. [illegible] [illegible]

3. [illegible]

4. [illegible] [illegible]

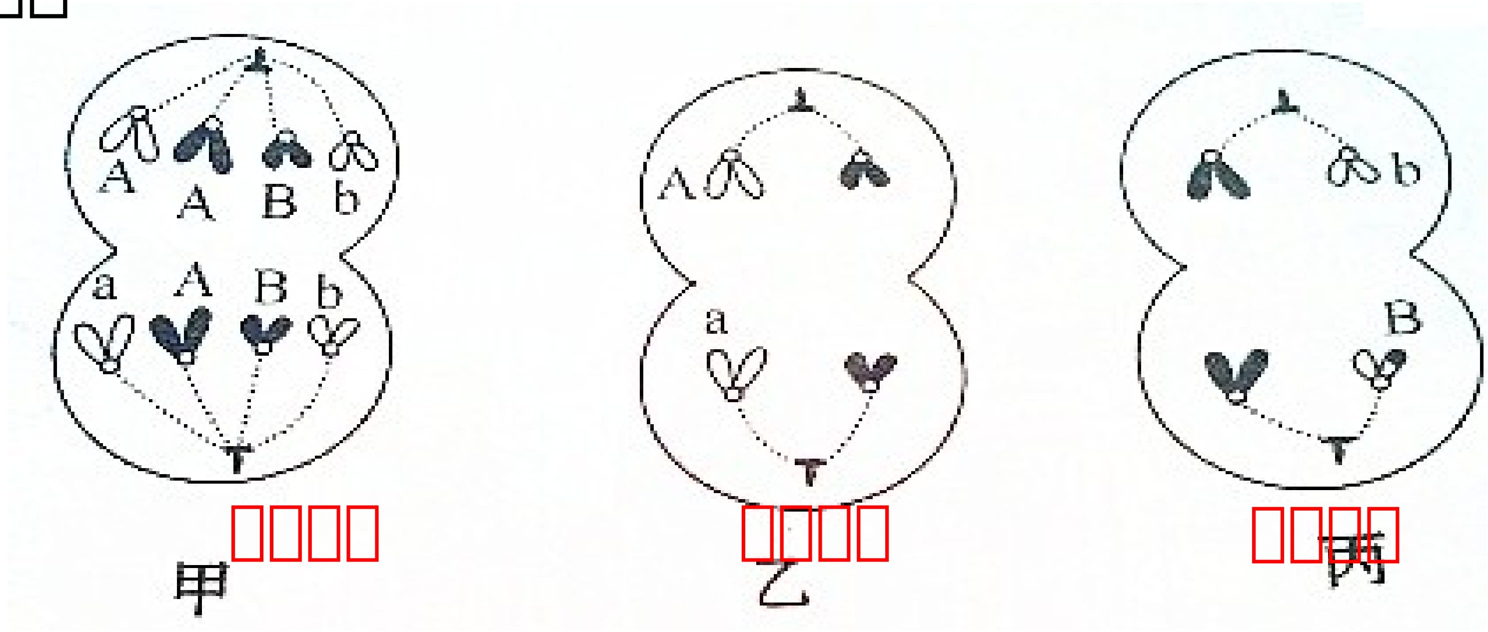
5 [illegible]

[illegible]

[illegible]

[illegible]

[illegible] AABb [illegible]



[illegible]

[illegible] ____________ [illegible]

[illegible] ________________ [illegible]

[illegible]

3 [illegible] ([illegible]) [illegible] :

(1) [illegible] ________ [illegible] ______ [illegible] ______ [illegible]

________________________________ 1 [illegible] 1 ____ [illegible]

[illegible] [illegible]

(2) [illegible] . [illegible] 1 [illegible] 1 [illegible] 4 [illegible] ________ [illegible] ________ [illegible] .

1 [illegible] 1

[illegible]

4 [illegible] A [illegible] a [illegible]
[illegible] B [illegible] b [illegible]
[illegible] F1 [illegible] F2 [illegible]
[illegible] =66 [illegible] 9 [illegible] 9 [illegible] 16 [illegible]

[illegible] 1 [illegible] ________ [illegible]“[illegible]”[illegible]“[illegible]”[illegible]
[illegible]

[illegible] 2 [illegible] ________ [illegible]“[illegible]”[illegible]“[illegible]”[illegible]
[illegible]

[illegible] 3 [illegible] F2 [illegible]
[illegible] ____________________________ [illegible]
[illegible] ________________________________ [illegible]

[illegible]

[illegible]

□□□□□□□□□□□□□□□□□□□□A□a□□□□□□□□□□□□□□□□□□□□□
□B□b□□□□□□□□□□□□□□□□□□□□□□□□□□□F1□□□□□□□□□□
□□F2□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□=66□
9□9□16□

□4□□□□□□□□□□□□□□□□□

① □□□□□□□□□□□□□□□ __________ □□□□□□□□

②F1□□□□□□□□□□□□□□□□□□AB□Ab□1aB□ab=4□1□1□4□

③ □□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□

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______________□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□5□□□□□②=4□1□1□4□□□□□□□□□□□□□□□□□□□□ __________□

40%